

three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one eighth inch = one foot  
one eighth inch = one foot

FIRE ALARM DEVICE LEGEND	
SYMBOLS	DESCRIPTION
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR
	FIRE ALARM POWER SUPPLY
	FIRE ALARM TERMINAL CABINET
	HEAT DETECTOR
	SMOKE DETECTOR
	BELL
	DOOR HOLDER
	DUCT SMOKE DETECTOR
	MANUAL PULL STATION
	FIRE SMOKE DAMPER (F.B.O.)
	MONITOR MODULE
	REMOTE TEST STATION
	POST INDICATOR VALE (F.B.O.)
	FIRE ALARM SPEAKER
	STROBE ALARM LIGHT
	STROBE ALARM LIGHT - WALL MOUNTED
	TAMPER SWITCH
	WATERFLOW SWITCH
	END OF LINE RESISTOR
	WALL MOUNT
	SMOKE DETECTOR SINGLE STATION (120VAC), W/INTEGRAL 177CD STROBE
	DOUBLE CHECK VALVE (F.B.O.)

## SCOPE OF WORK

OCCUPANCY TYPE: R-2  
SPRINKLER PROTECTION: BUILDING IS FULLY SPRINKLED  
PROVIDE AND INSTALL A NEW REMOTE SUPERVISING STATION FIRE ALARM SYSTEM AS SHOWN ON THE DRAWINGS WHICH SHALL PROVIDE:  
FIRE SPRINKLER SYSTEM MONITORING  
PUBLIC AREA SMOKE DETECTION  
RESIDENCE UNIT SMOKE DETECTION  
MAGNETIC DOOR HOLD OPEN DEVICES  
COMMON AREA NOTIFICATION DEVICES  
WHICH SHALL PRODUCE A SOUND LEVEL 15dB ABOVE AMBIENT SOUND LEVEL OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, MEASURED 1.5M (5-FT) ABOVE THE FLOOR IN THE OCCUPIED AREA, USING THE A-WEIGHTED SCALE (dBA).  
RESIDENTIAL UNIT NOTIFICATION DEVICES  
WHICH SHALL PRODUCE A SOUND LEVEL 15dB ABOVE AMBIENT SOUND LEVEL OR 5dB ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS WHICHEVER IS GREATER AT THE PILLOW LEVEL IN THE OCCUPIED AREA, USING THE A-WEIGHTED SCALE (dBA).  
ALARM, TROUBLE, AND SUPERVISORY SIGNALS SHALL BE TRANSMITTED TO A REMOTE SUPERVISING STATION.

## APPLICABLE CODES AND STANDARDS

- 2016 INTERNATIONAL BUILDING CODE
- 2016 INTERNATIONAL RESIDENTIAL CODE
- 2016 UNIFORM MECHANICAL CODE
- 2016 UNIFORM PLUMBING CODE
- 2016 NATIONAL ELECTRICAL CODE
- 2016 INTERNATIONAL FIRE CODE
- 2016 INTERNATIONAL PROPERTY MAINTENANCE CODE
- 2016 NFPA 72
- 2015 NFPA 101
- AMERICANS WITH DISABILITIES ACT (ADA)
- ARCHITECTURAL BARRIERS ACT (ABA)

## FIRE ALARM SHEET LIST

SHEET NUMBER	SHEET NAME
FA001	FIRE ALARM COVER SHEET
FA101	FIRE ALARM - SITE PLAN
FA201	FIRE ALARM - LEVEL 1 NORTH WING
FA202	FIRE ALARM - LEVEL 1 WEST WING
FA301	FIRE ALARM - RISER DIAGRAM
FA401	FIRE ALARM - DETAIL SHEET
FA402	FIRE ALARM - DETAIL SHEET
FA403	FIRE ALARM - DETAIL SHEET

## FIRE ALARM WIRE LEGEND\*

DESIGNATION	NO. OF CONDUCTORS	SIZE AWG	TYPE	USE
A	2	18	FPLR	SLC
B	2	12	THHN	STROBE
C	2	16	FPL**	SPEAKER
D	2	14	FPL	24VDC
E	2	18	FPL**	EIA-485
F	2	18	FPL	HVAC UNIT CONTROL
G	2	12	THHN	FSD CONTROL
H	2	14	FPL	DOOR HOLD
M	2	18	FPL	MONITOR POINT
N	2	16	FPL**	NETWORK
R	4	18	FPL	REMOTE INDICATOR
S	2	18	FPL	STROBE SYNC RISER
T	2	18	FPL	DIGITAL AUDIO

\*THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE CORRECT CABLES AND QUANTITIES OF CABLES FOR THE BRAND OF FIRE ALARM LIFE SAFETY SYSTEM THAT THEY ARE PROPOSING.  
\*\* CONFIRM MANUFACTURER'S CABLE REQUIREMENTS. USE SHIELDED CABLE IF REQUIRED.

LEGEND OF ABBREVIATIONS	
(N)	- NEW
(E)	- EXISTING
(X)	- REMOVE
(R)	- REPLACE
(RR)	- REMOVE AND REINSTALL
A.F.F.	- ABOVE FINISHED FLOOR
AC	- ABOVE CEILING
ADR	- AREA OF REFUGE
ELDR	- END OF LINE RESISTOR
UF	- UNDER FLOOR
U.O.N.	- UNLESS OTHERWISE NOTED
NAC	- NOTIFICATION APPLICANCE CIRCUIT
SLC	- SIGNAL LINE CIRCUIT
PV	- POST INDICATOR VALVE
OSBY	- OUTSIDE STEM AND YONKE VALVE
N.T.S.	- NOT TO SCALE
DCV	- DOUBLE CHECK VALVE
PB	- PULL BOX
DPB	- DAMPER POSITION SWITCH

## GENERAL NOTES

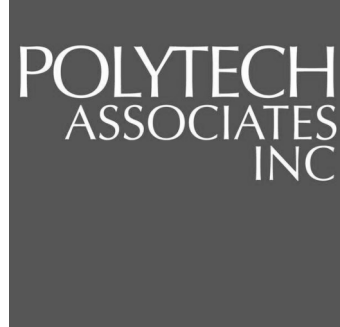
- ALL REQUIREMENTS OF CONTRACT SPECIFICATIONS AND DRAWINGS APPLY.
- INSTALLATION SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE ELECTRICAL CODES.
- WIRING METHODS AND MATERIALS SHALL CONFORM WITH ALL APPLICABLE SECTIONS OF NEC ARTICLE 760.
- 120VAC INPUT POWER FOR FIRE ALARM CONTROLS SHALL BE A DEDICATED, LOCKING CIRCUIT BREAKER PROPERLY LABELED "FACP". LABEL SHALL BE RED.
- 120VAC IS NOT PERMITTED IN SAME CONDUIT WITH LOW VOLTAGE WIRING.
- SMOKE DETECTORS SHALL NOT BE INSTALLED UNTIL FINAL CLEANING HAS BEEN COMPLETED UNLESS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- CONDUIT AND JUNCTION BOXES ARE DIAGRAMMATIC ONLY. EXACT LOCATION MAY VARY DUE TO FIELD CONDITIONS. ACTUAL INSTALLATION LOCATIONS SHALL BE DETERMINED BY THE INSTALLING CONTRACTOR.
- NOTIFICATION DEVICE CIRCUIT WIRE RUN LENGTHS ARE CRITICAL. ANY INCREASE IN LENGTH OF WIRE MAY AFFECT CIRCUIT CONFIGURATION/VOLTAGE DROP.
- DO NOT LOCATE SMOKE DETECTORS WITHIN THREE (3) FEET OF SUPPLY AIR VENTS.
- THE FIRE ALARM SYSTEM SHALL CONFORM TO THE 2010 EDITION OF NFPA 72 AND THE 2012 EDITION OF NFPA 101.
- UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION.
- A MINIMUM OF 48 HOURS NOTICE SHALL BE REQUIRED FOR ANY INSPECTION AND/OR TESTING.
- ALL DEVICES OF THE FIRE ALARM SYSTEM SHALL BE APPROVED AND LISTED FOR USE BY THE AUTHORITY HAVING JURISDICTION.
- A STAMPED SET OF APPROVED FIRE ALARM PLANS SHALL BE ON THE JOB AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES, SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- A CERTIFICATE OF COMPLIANCE SHALL BE PREPARED BY THE INSTALLING CONTRACTOR AND GIVEN TO THE AUTHORITY HAVING JURISDICTION UPON COMPLETION OF THE INSTALLATION.
- ALL RISER WIRING SHALL BE IN CONDUIT. WALL PENETRATIONS SHALL USE APPROVED PENETRATION METHODS.
- THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT AND FIELD DEVICES.
- SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT THE DESIGNER IN A TIMELY MANNER SO AS NOT TO IMPAIR THE PROJECT SCHEDULE.
- THE CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
- THE CONTRACTOR SHALL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT WORKMAN LIKE MANNER.
- DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED TECHNICAL REPRESENTATIVE.
- THE CONTRACTOR SHALL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES THAT ARE ALTERED AS A RESULT OF THE CONTRACTORS WORK AND ANY TIME WORK IS NOT BEING ACTIVELY PERFORMED.

## INSTALLATION NOTES

- ALL FIRE ALARM WIRING SHALL BE INSTALLED, PER NEC REQUIREMENTS.
- INSTALLATION SHALL CONFORM TO MANUFACTURER'S WIRING SPECIFICATIONS FOR OPTIMAL SYSTEM OPERATION.
- ONE CIRCUIT OF DEDICATED 120VAC POWER SHALL BE PROVIDED AT EACH ALARM PANEL LOCATION. SEE ELECTRICAL DRAWINGS FOR SPECIFIC CIRCUIT IDENTIFICATION.
- ANY NEW WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR SHALL NOT INTERMIX ANY HIGH VOLTAGE POWER WIRES (120VAC) WITH ANY SIGNAL OR CONTROL WIRES IN ANY CONDUIT.
- ALL WIRES SHALL BE CONNECTED IN A UNIFORM MANNER. TRANSPONDING OR CHANGING OF COLOR CODES SHALL NOT BE PERMITTED.
- PULL AND JUNCTION BOXES SHALL BE PROVIDED WITH BLANK COVERS, OUT DOOR INSTALLED BOXES AND CONDUIT SHALL BE WEATHERPROOF TYPE.
- ALL ROUTES OF WIRING ARE DIAGRAMMATIC, CONTRACTOR TO FIELD VERIFY EXACT ROUTING.
- THE CONTRACTOR SHALL UNDERTAKE THE WORK IN ITS ENTIRETY IN ACCORDANCE WITH ITS DESIGN AND PURPOSE. ALL WORK SHALL BE CARRIED OUT IN A PROFESSIONAL MANNER WITH MAXIMUM EFFICIENCY AND EXCELLENT WORKMANSHIP.
- IT IS UNDERSTOOD THAT THE CONTRACTOR HAS READ AND UNDERSTOOD FULLY THE PLANS, SPECIFICATIONS, AND ALL RELATED DOCUMENTS ON THIS PROJECT, AND IS WELL FAMILIAR WITH SITE CONDITIONS.
- ALL CONDUIT IS 3/4-INCH MINIMUM UNLESS OTHERWISE NOTED.
- FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70 (NEC), ARTICLES 760, 770, 725, AND 800 WHERE APPLICABLE.
- ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY THROUGHOUT THE FULL LENGTH OF THE WIRE/CABLE.
- MAINTAIN 40% CONDUIT FILL RATIO PER NEC REQUIREMENTS.
- CONNECT FIRE/SMOKE DAMPERS TO THE APPROPRIATE FIRE ALARM RELAY AS NOTED ON THE PLANS. REFER TO MECHANICAL DRAWINGS FOR FIRE/SMOKE DAMPER LOCATIONS.
- POWER LIMITED CIRCUITS SHALL NOT BE INSTALLED IN THE SAME CABLE OR RACEWAY WITH CLASS 2 OR CLASS 3 AUDIO CIRCUITS PER CEC 760.56(0).
- POWER LIMITED CIRCUITS SHALL BE SEPARATED FROM ELECTRIC LIGHT, POWER, CLASS 1, NON POWER LIMITED, AND MEDIUM POWERED BROADBAND COMMUNICATIONS CIRCUITS BY METAL BARRIER OR RACEWAY.

## CONSULTANTS:

## ARCHITECT/ENGINEERS:



POLYTECH ASSOCIATES INC.  
235 Pine Street, 17th Floor  
San Francisco, CA 94104  
TEL (415) 397-3117  
FAX (415) 397-1517

Drawing Title  
FIRE ALARM COVER SHEET

Approved: Project Director

Project Title  
EXPAND COMMUNITY LIVING CENTER  
PHASE 1

Location  
2615 E. CLINTON AVE. FRESNO, CA 93703-2223

Date  
11/19/2015

Checked  
TW

Drawn  
AK/KE

Project Number  
570-218

Building Number  
31

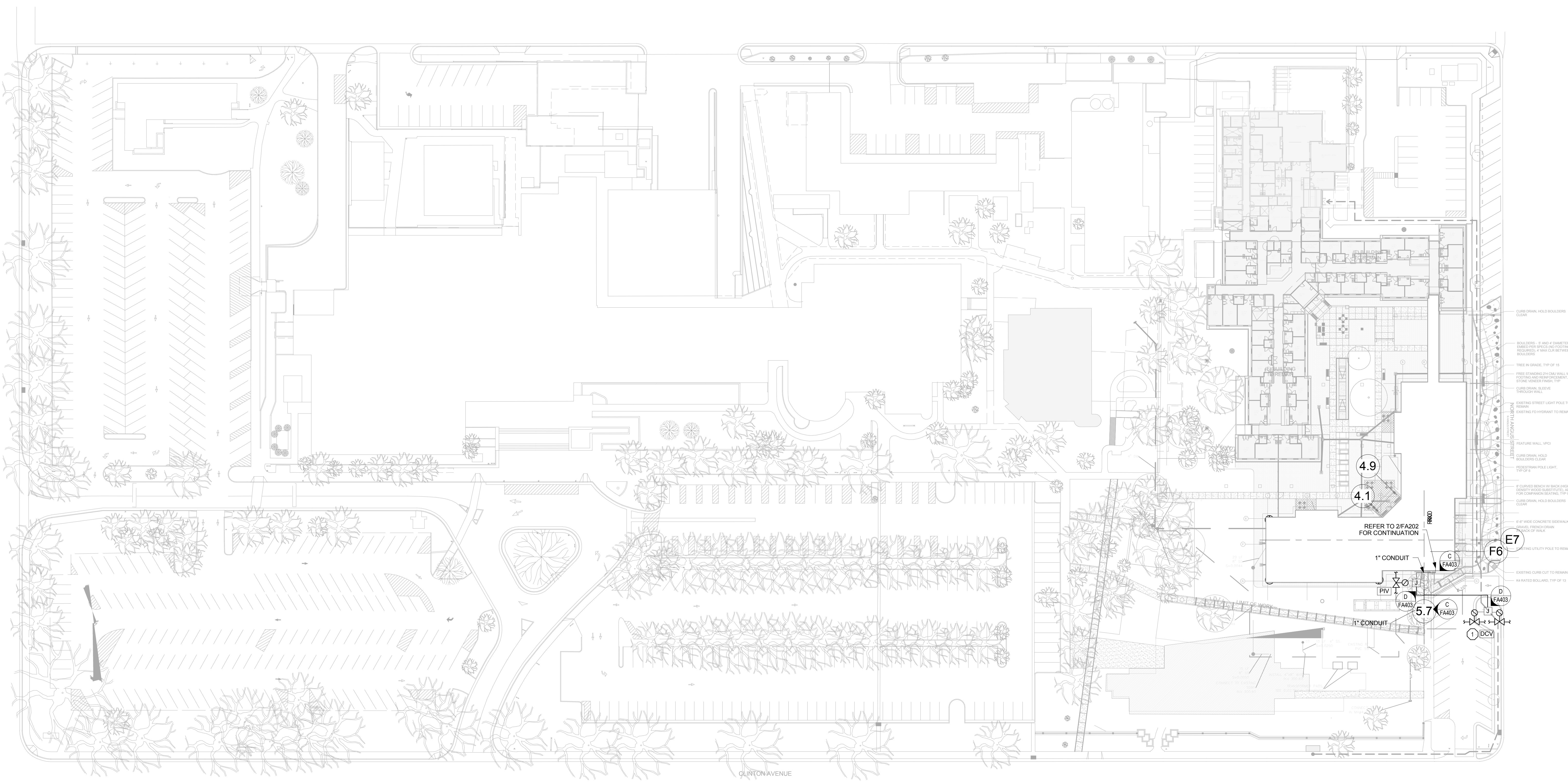
Drawing Number  
FA001

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Veterans Affairs



1 SITE PLAN  
1" = 40'-0"

**KEYNOTES - FA101**  
1 PROVIDE CONDUIT, WIRING, AND DEVICE CONNECTIONS TO EXISTING BACKFLOW PREVENTER PROVIDED UNDER M#4.4 PROJECT. CONTRACTOR TO VERIFY IN FIELD.

100% CONSTRUCTION  
DOCUMENTS  
11/19/2015

		CONSULTANTS:		ARCHITECT/ENGINEERS: <div><div>POLYTECH ASSOCIATES INC</div><div>235 Pine Street, 17th Floor San Francisco, CA 94104 TEL (415) 397-3117 FAX (415) 397-1517</div></div>	<div>Drawing Title</div> <div>FIRE ALARM - SITE PLAN</div>	<div>Project Title</div> <div>EXPAND COMMUNITY LIVING CENTER PHASE 1</div>	<div>Project Number</div> <div>570-218</div>	Office of Construction and Facilities Management <div><div></div>Department of Veterans Affairs</div>
			<div>Building Number</div> <div>31</div>					
			<div>Approved: Project Director</div>		<div>Location</div> <div>2615 E. CLINTON AVE. FRESNO, CA 93703-2223</div>	<div>Drawing Number</div> <div>FA101</div>		
			<div>Date</div> <div>11/19/2015</div>		<div>Checked</div> <div>TW</div>	<div>Dwg. of</div>		
					<div>Drawn</div> <div>AK/KE</div>			
Revisions:	Date							

three inches = one foot  
one and one half inches = one foot  
one inch = one foot  
three quarters inch = one foot  
one half inch = one foot  
three eighths inch = one foot  
one quarter inch = one foot  
one eighth inch = one foot  
one eighth inch = one foot

1 FIRE ALARM - NORTH WING  
1/8" = 1'-0"

CONSULTANTS:

ARCHITECT/ENGINEERS:

**POLYTECH ASSOCIATES INC.**  
POLYTECH ASSOCIATES INC.  
235 Pine Street, 17th Floor  
San Francisco, CA 94104  
TEL (415) 397-3117  
FAX (415) 397-1517

Drawing Title  
FIRE ALARM - LEVEL 1  
NORTH WING

Approved: Project Director

Project Title  
EXPAND COMMUNITY LIVING CENTER  
PHASE 1

Location  
2615 E. CLINTON AVE. FRESNO, CA 93703-2223

Date  
11/19/2015

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Project Number  
570-218

Building Number  
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Drawing Number  
FA201

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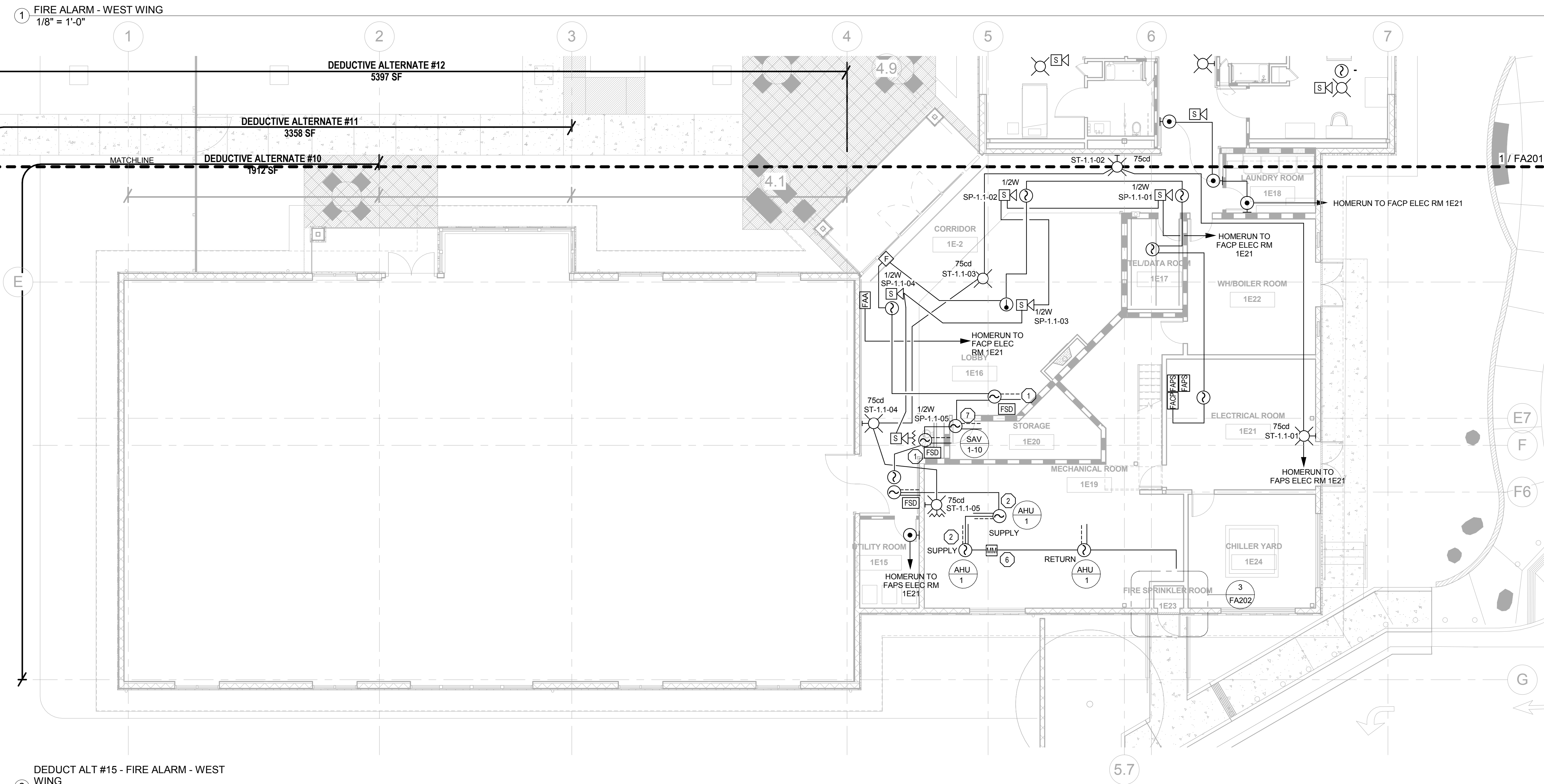
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and Facilities  
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Veterans Affairs

## KEYNOTES - FA201

- 1 PROVIDE DUCT DETECTOR AT FSD WITH PROGRAMMABLE RELAY AND REMOTE INDICATOR/TEST SWITCH. INSTALL REMOTE INDICATOR/TEST SWITCH BELOW THE CEILING SO THAT IT IS VISIBLE FROM THE FLOOR.
- 2 PROVIDE DUCT DETECTOR AT HVAC UNIT WITH PROGRAMMABLE RELAY AND REMOTE INDICATOR/TEST SWITCH. INSTALL REMOTE INDICATOR/TEST SWITCH BELOW THE CEILING SO THAT IT IS VISIBLE FROM THE FLOOR.
- 3 PROVIDE 120VAC STAND-ALONE SMOKE DETECTOR WITH INTEGRAL 177CD STROBE FOR RESIDENCE UNIT. PROVIDE DEDICATED 120VAC CIRCUIT FROM RESIDENCE UNIT ELECTRICAL PANEL. MONITOR SMOKE DETECTOR WITH ADDRESSABLE MONITOR MODULE.

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DOCUMENTS  
11/19/2015



		CONSULTANTS:				ARCHITECT/ENGINEERS:		Drawing Title FIRE ALARM - LEVEL 1 WEST WING		Project Title EXPAND COMMUNITY LIVING CENTER PHASE 1		Project Number 570-218		Office of Construction and Facilities Management	
						<div><div>POLYTECH ASSOCIATES INC</div><div>POLYTECH ASSOCIATES INC. 235 Pine Street, 17th Floor San Francisco, CA 94104 TEL (415) 397-3117 FAX (415) 397-1517</div></div>				Building Number 31					
								Approved: Project Director		Location 2615 E. CLINTON AVE. FRESNO, CA 93703-2223		Drawing Number FA202		Department of Veterans Affairs	
Revisions:		Date						Date 11/19/2015		Checked TW		Drawn AK/KE			




1 THE CONTRACTOR IS RESPONSIBLE FOR REVISING FIRE ALARM  
CIRCUITS, FIRE ALARM DEVICE IDENTIFICATION TAGS, AND  
END-OF-LINE RESISTOR LOCATIONS DEPENDING UPON WHICH  
DEDUCTIVE ALTERNATES ARE SELECTED BY THE OWNER.

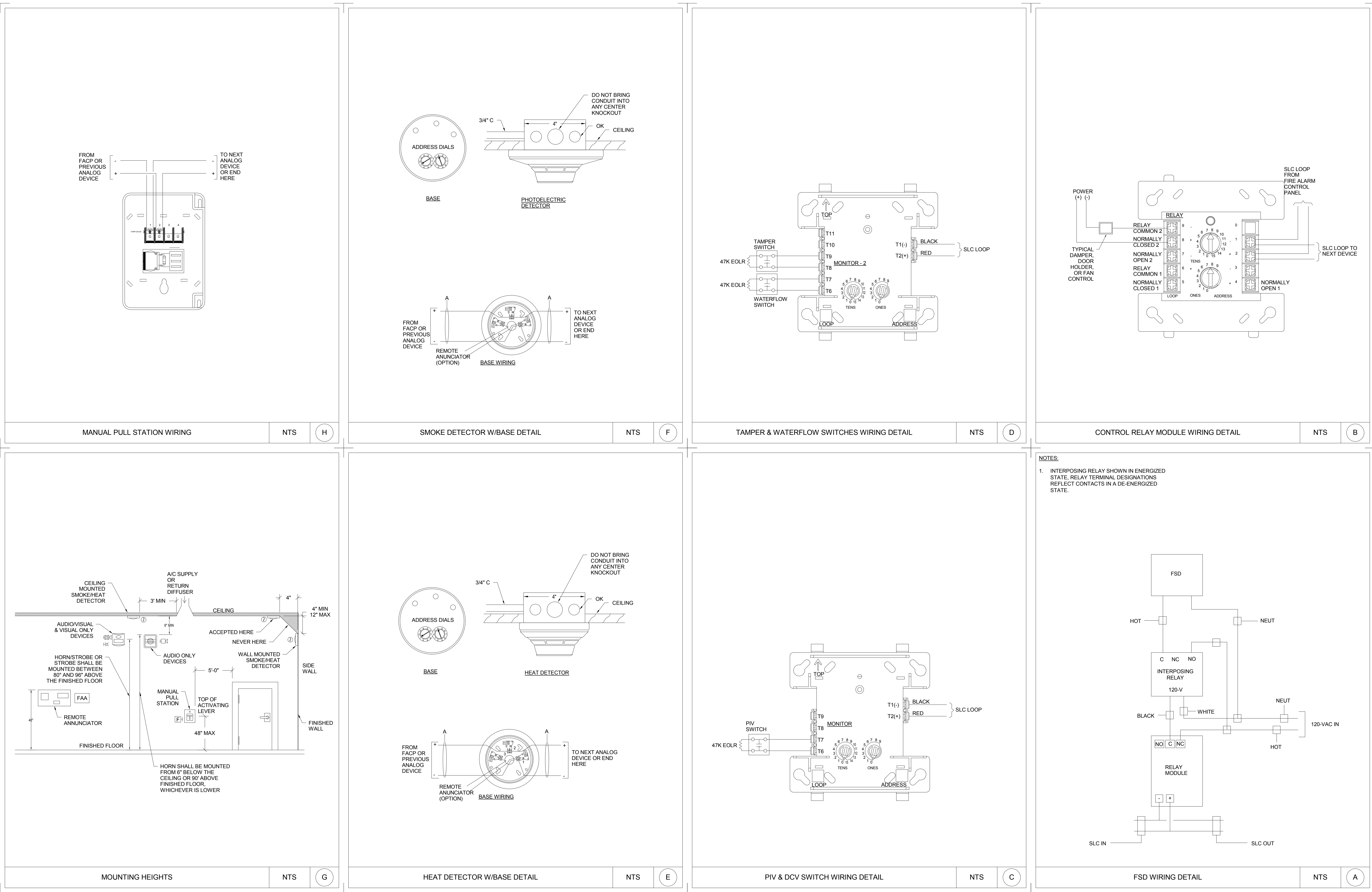
1	ELIMINATE DEVICES, CONDUIT AND WIRING FOR DEDUCTIVE ALTERNATE #10
2	ELIMINATE DEVICES, CONDUIT AND WIRING FOR DEDUCTIVE ALTERNATE #11
3	ELIMINATE DEVICES, CONDUIT AND WIRING FOR DEDUCTIVE ALTERNATE #12

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		CONSULTANTS:				ARCHITECT/ENGINEERS:		Drawing Title FIRE ALARM - RISER DIAGRAM		Project Title EXPAND COMMUNITY LIVING CENTER PHASE 1		Project Number 570-218		Office of Construction and Facilities Management					
						<div><div>POLYTECH ASSOCIATES INC</div><div>POLYTECH ASSOCIATES INC.  235 Pine Street, 17th Floor San Francisco, CA 94104 TEL (415) 397-3117 FAX (415) 397-1517</div></div>		Approved: Project Director		Location 2615 E. CLINTON AVE. FRESNO, CA 93703-2223		Building Number 31				Drawing Number <div>FA301</div>			
Revisions:		Date								Date 11/19/2015		Checked TW		Drawn AK/KE		Dwg. of		<div> Department of Veterans Affairs</div>	

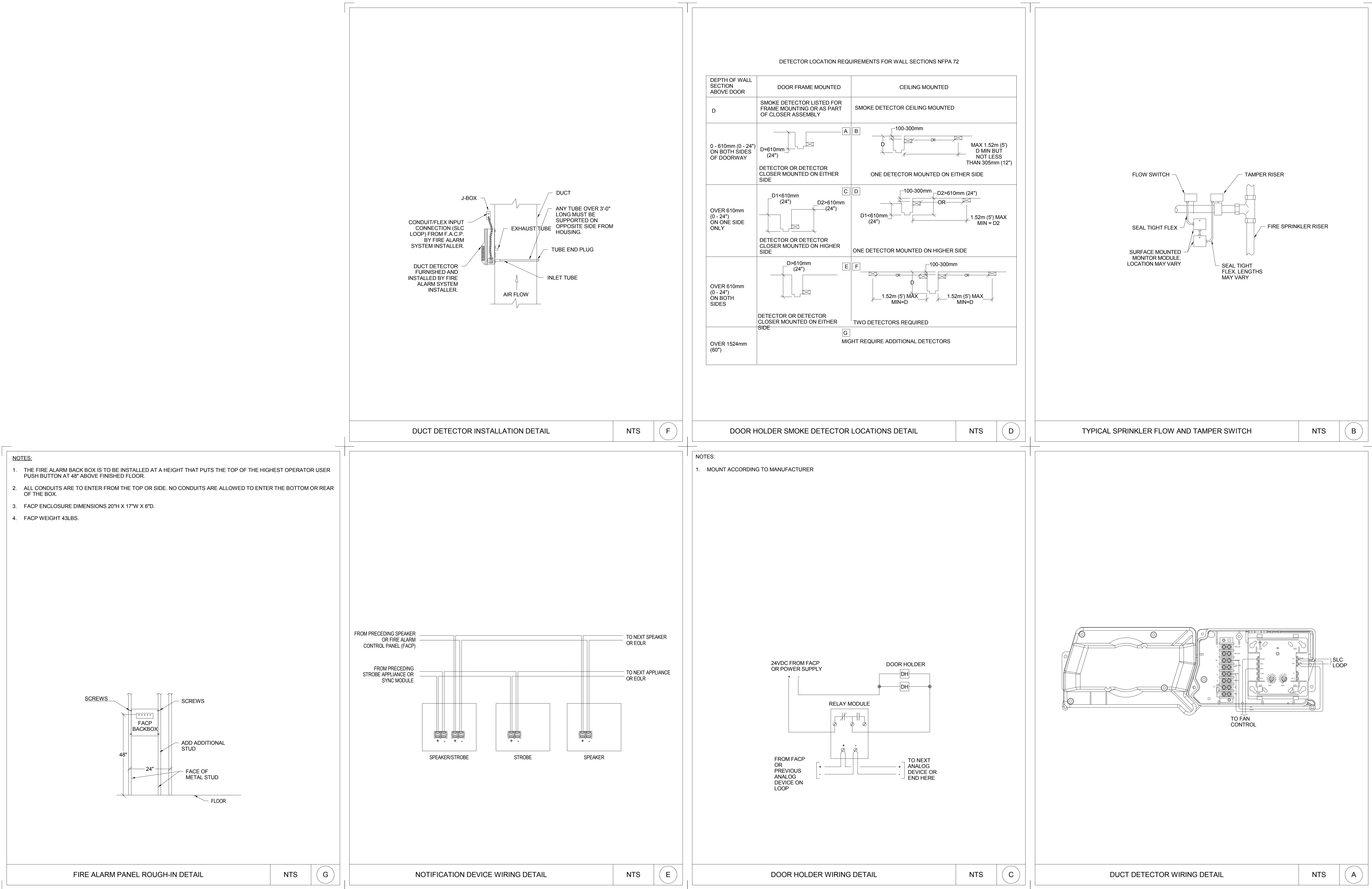
one eighth inch = one foot  
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three eighths inch = one foot  
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three quarters inch = one foot  
one inch = one foot  
one and one half inches = one foot  
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three inches = one foot  
four inches = one foot  
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seven inches = one foot  
eight inches = one foot  
nine inches = one foot  
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twenty inches = one foot  
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thirty inches = one foot  
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eighty five inches = one foot  
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ninety two inches = one foot  
ninety three inches = one foot  
ninety four inches = one foot  
ninety five inches = one foot  
ninety six inches = one foot  
ninety seven inches = one foot  
ninety eight inches = one foot  
ninety nine inches = one foot  
one hundred inches = one foot



NOTES:  
1. INTERPOSING RELAY SHOWN IN ENERGIZED STATE. RELAY TERMINAL DESIGNATIONS REFLECT CONTACTS IN A DE-ENERGIZED STATE.

		CONSULTANTS:		ARCHITECT/ENGINEERS: <div><div>POLYTECH ASSOCIATES INC.</div><div>235 Pine Street, 17th Floor San Francisco, CA 94104 TEL (415) 397-3117 FAX (415) 397-1517</div></div>	<div>Drawing Title</div> <div>FIRE ALARM - DETAIL SHEET</div>	<div>Project Title</div> <div>EXPAND COMMUNITY LIVING CENTER PHASE 1</div>	<div>Project Number</div> <div>570-218</div>	Office of Construction and Facilities Management		
						<div>Building Number</div> <div>31</div>				
					<div>Approved: Project Director</div>	<div>Location</div> <div>2615 E. CLINTON AVE. FRESNO, CA 93703-2223</div>	<div>Drawing Number</div> <div>FA401</div>			
						<div>Date</div> <div>11/19/2015</div>	<div>Checked</div> <div>TW</div>		<div>Drawn</div> <div>AK/KE</div>	<div>Dwg. of</div>
Revisions:	Date							<div>Department of Veterans Affairs</div>		


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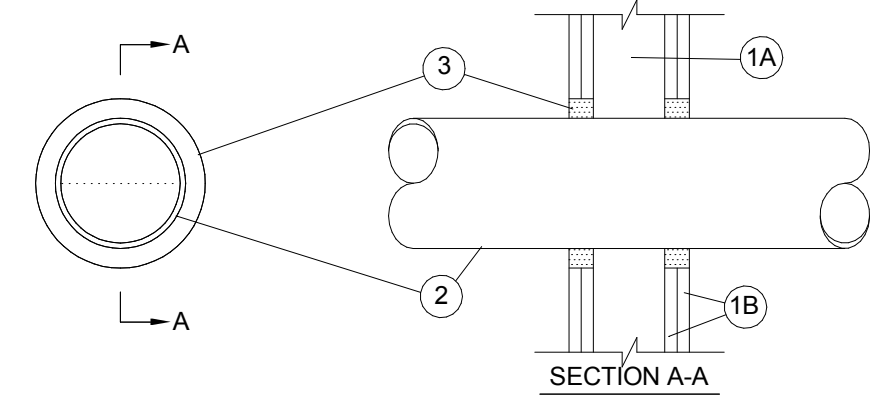
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ARCHITECT/ENGINEERS:		
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Drawing Title FIRE ALARM - DETAIL SHEET		
Approved: Project Director		
Project Title EXPAND COMMUNITY LIVING CENTER PHASE 1		
Location 2615 E. CLINTON AVE. FRESNO, CA 93703-2223		
Date 11/19/2015	Checked TW	Drawn AK/KE
Project Number 570-218		Building Number 31
Drawing Number FA402		Dwg. of
Office of Construction and Facilities Management		Department of Veterans Affairs

one eighth inch = one foot  
one quarter inch = one foot  
three eighths inch = one foot  
one half inch = one foot  
three quarters inch = one foot  
one inch = one foot  
one and one half inches = one foot  
two inches = one foot  
three inches = one foot

NOT USED		NTS	H	NOT USED		NTS	F			NTS	D
NOT USED		NTS	G	NOT USED		NTS	E			NTS	C
NOT USED		NTS		NOT USED		NTS				NTS	A



System No. W-L-1054  
F Ratings - 1 and 2 Hr (See Items 1 and 3)  
T Rating - 0 Hr  
L Rating At Ambient - Less Than 1 CFM/Sq Ft  
L Rating At 400 F - 4 CFM/Sq Ft



1. Wall Assembly - The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides.

B. Gypsum Board\* - 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls. The F Rating of the firestop system is equal to the fire rating of the wall assembly.

2. Through-Penetrants - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe - Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe - Nom 30 in. diam (or smaller) cast or ductile iron pipe.

C. Conduit - Nom 4 in. diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.


D. Copper Tubing - Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

E. Copper Pipe - Nom 6 in. diam (or smaller) regular (or heavier) copper pipe.

3. Fill, Void or Cavity Material\* - Sealant - Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - FS-One Sealant

\*Bearing the UL Classification Mark

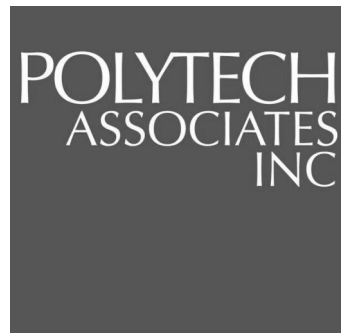


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HILTI W-L-1054 FIRE STOP DETAIL

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<div>Revisions:</div> <div>Date</div>		CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title FIRE ALARM - DETAIL SHEET		Project Title EXPAND COMMUNITY LIVING CENTER PHASE 1		Project Number 570-218		Office of Construction and Facilities Management	
						Approved: Project Director		Location 2615 E. CLINTON AVE. FRESNO, CA 93703-2223		Building Number 31			
				POLYTECH ASSOCIATES INC. 235 Pine Street, 17th Floor San Francisco, CA 94104 TEL (415) 397-3117 FAX (415) 397-1517				Date 11/19/2015		Drawing Number FA403			
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